EXCISION OF THE BONES OF THE TARSUS FOR TUBERCULAR DISEASE, WITH REPORT OF A CASE IN WHICH EXTENSIVE EXCISION OF THE TARSUS WAS PERFORMED IN BOTH FEET.[1]

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FORMERLY when a case of tuberculous disease of the bones of the feet presented itself for treatment the only resource was amputation, but with the advent of antiseptic surgery and the establishment of conservative principles of treatment, other methods of procedure have been adopted with success. In cases of tuberculous and carious disease of the bones of the foot the necessity for amputation is not immediate, and it is the duty of the surgeon to endeavor first to remove the local disease before sacrificing the extremity. In diseases, for instance, of the tarso-metatarsal articulation only the diseased parts of the bones entering into this articulation should be removed, and the same may be said of the tarsal and ankle joints. The principle I wish to advocate in these cases of tuberculous disease of the bones of the foot is not a new one, but one that is not sufficiently insisted on. It is this, viz., that it is not always necessary to remove a definite portion of the foot by a Hey's Chopart's or Syme's amputation, even when the disease is very extensive; on the contrary, the diseased parts should be cut down upon wherever they exist, and only the bones affected with disease should be removed. The removal of the disease, however, should be thorough, and it is better to remove too much than too little, as the more complete the removal the more rapid the cure.[1]

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[1] Read before the Surgical Section of the Canada Medical Association, Quebec, August 18, 1886.

I have several times performed partial excision of the tarsus and ankle joint with the best results. In children the necessity for amputation rarely occurs, removal of the disease by scraping and gouging being nearly always sufficient. The following case illustrates this: A. B., æt. 3 years, a delicate child with a strumous history, had for some time complained of a sore foot, and latterly had walked lame. When seen, April, 1884, there was a small fluctuating swelling over the scaphoid bone of the left foot, the whole foot was enlarged and inflamed. The swelling was incised and a quantity of thin curdy pus let out. On passing in a probe carious bone was felt. The child was immediately put under ether, and the carious portions which involved the scaphoid and cuneiform bones was thoroughly scraped out with a Volkmann's spoon. The cavity was afterwards stuffed with iodoform gauze and the foot dressed with sublimate jute. In the course of a couple of months the cavity had completely filled up, and soon afterwards the child was running about as actively as ever. Now, in this case, had the disease been allowed to go on, the whole tarsus would have been involved, and a much more serious operation would have had to have been undertaken. Up to the present time there has been no return of the disease. The next case I shall relate is one of extensive disease of both feet in a young girl, æt. 17. In one foot excision of ankle joint and tarsus was performed, and in the other partial excision of tarsus.

Mary T., æt. 17, a delicate looking girl, was admitted into the Montreal General Hospital, May 27, 1885, for disease of both feet.

No distinct history of phthisis or scrofula in the family, but some of relations died of "lung disease."

Patient up to one year ago had always enjoyed good health, when she noticed that both feet were commencing to swell. The swelling in the right one was over the ankle, that in the left over the dorsum of foot. The swellings "broke" some eight months ago, and have been discharging ever since. Had not walked for the last two months. On examination several sinuses were seen in each foot; in the left, they were situated below the internal malleolus and led down to the carious bones; in the right several were situated over the tarso-metatarsal joint on the dorsum of the foot, and one was seen in middle of sole of foot. Both feet were much swollen, and could not bear pressure without pain. Movements of left ankle joint exceedingly painful, but no roughness felt in movement. It was decided to remove the diseased portions of left foot first. On June 1 the patient was etherized, and an incision made below the tip of internal malleolus from the tendo Achillis downwards along the inner border of the foot in the course of the discharging sinuses. Bare bone was soon reached and several sequestra removed, the cavity was gouged out with a Volkmann's spoon and afterwards stuffed with iodoform gauze. A jute pad was then applied, which was sufficiently firm when covered with antiseptic bandage to keep the foot in proper position. The dressings were removed once a week, and for a time the patient markedly improved, but later it was found that all the disease had not been removed, that carious action was still going on, and that suppuration was more profuse than it ought to have been. On the 15th of August, 1885, patient was again etherized and an incision made in the same line as the former one and the parts more freely exposed. It was found that the ankle joint was involved, and that there was disease also of scaphoid and cuboid bones. The astragalus had an abscess the size of a filbert in its centre. I removed the lower end of the tibia, astragalus, part of cuboid, external cuneiform, scaphoid, and a portion of the os calcis, but left the external malleolus which was apparently healthy. The wound was dressed as before with iodoform gauze and jute pads. A drainage tube was also passed through the cavity, emerging beneath the external malleolus. The patient did remarkably well, rarely having a temperature over 100° F. The dressings were changed about once in ten days or two weeks, as required.

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[1] Dr. Conner in an exhaustive paper in Vol. I of the Transactions of the American Surgical Association reports two cases of excision of the entire tarsus; the patients recovered with useful feet. In the same paper he gives a table of 108 cases of excision of two or more bones of the tarsus.

In September, owing to the prevalence of small-pox in the city, all the patients in the hospital were vaccinated, this one amongst the rest. She got a severe attack of erysipelas on the arm and had to be removed to the infectious ward, and after recovery, not wishing her to re-enter the surgical wards, and she being much pulled down by the attack of erysipelas, I advised her to go home to the country for the winter and come back in the spring to have the other foot attended to. When she left the hospital the cavity in the left foot had entirely healed with the exception of a small fistulous opening below the site of the internal malleolus.

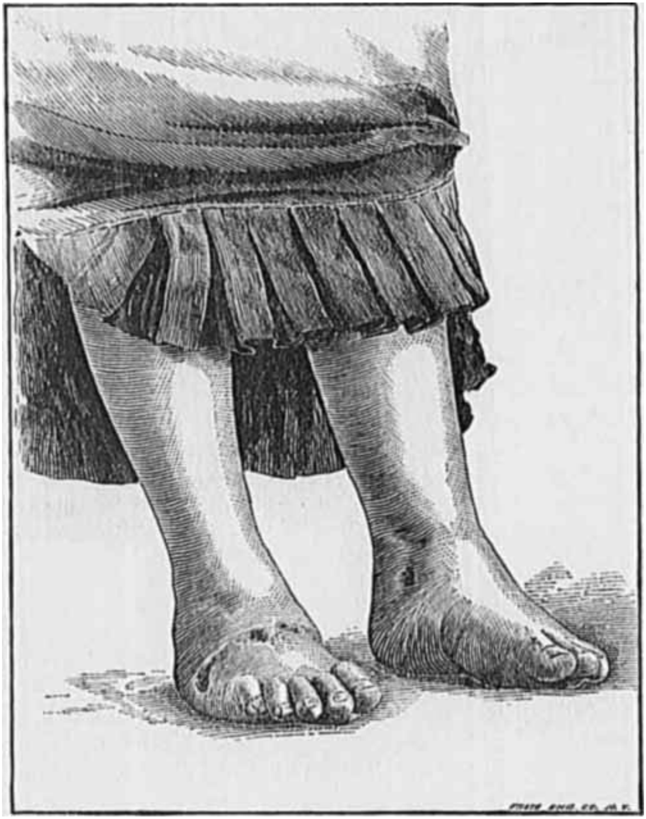

FIG. I. RESULT AFTER EXCISION OF THE TARSUS.

Right foot: Three cuneiform, part of cuboid, scaphoid, and bases of metatarsal bones removed.

Left foot: Lower end of tibia, astragalus, three cuneiform, cuboid, and scaphoid bones removed.

On the 5th of April, 1886, she returned to the hospital much improved in general health. There was still a small sinus at site of operation in left foot, which discharged a little glairy synovial looking fluid. The right foot was in much the same condition as before, the disease having kept fairly stationary, and being apparently confined entirely to the tarso metatarsal joint. The foot was swollen and painful. Carious bone could be felt with a probe through all the sinuses.

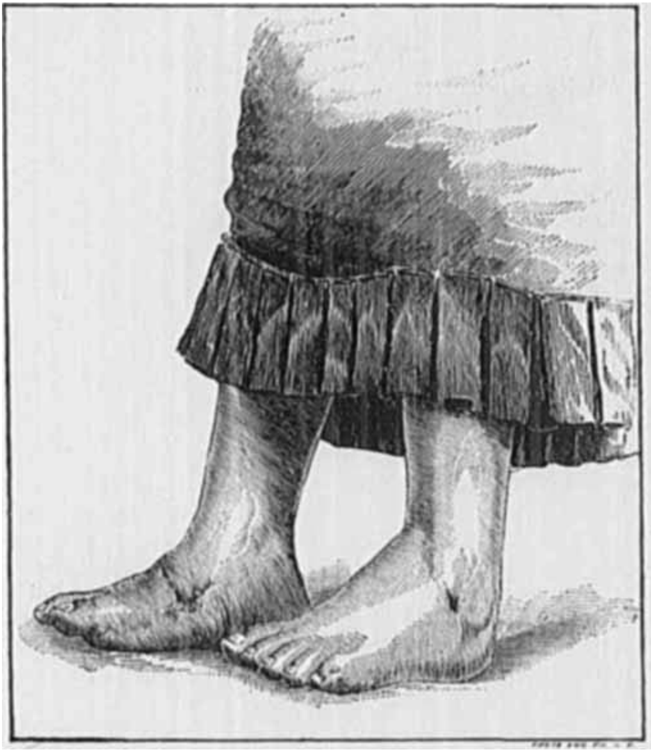

FIG. 2. RESULT AFTER EXCISION OF THE TARSUS.
Same case as Fig. 1; different view.

On the 25th of April she was again etherized, and the diseased bone removed from the left foot. Two longitudinal incisions were made, one on the outer and the other on the inner side of the foot. The soft parts were lifted from the dorsum of the foot and the extent of the disease seen. The three cuneiform bones with the bases of the inner three metatarsal bones were found to be in a carious condition; also the anterior portion of the scaphoid. The cuboid bone also was involved, where it articulated with the external cuneiform. But the articulations between the cuboid and the two outer metatarsal bones were healthy. The bases of the metatarsal bones were removed with a fine saw, and the three cuneiform bones taken away. The anterior portion of the scaphoid and the greater portion of the cuboid were removed also. A large space was now left, the posterior part of the foot being only connected with the toes by the soft parts. The cavity was washed out with an antiseptic solution and stuffed with iodoform gauze (freshly made), and the foot covered with a jute pad, and over this an outside gutta-percha splint was moulded. The sinus in the left foot was scraped out.

From the time of the operation the progress of the patient towards recovery was uninterrupted. The wound was redressed every ten or fifteen days, in all four times, when it was completely healed. The foot, though somewhat shortened and flat, was of good shape. The temperature throughout never rose above 99.5°,and the foot never gave the slightest pain or kept her from sleeping. The sinus in the left foot after the scraping, rapidly healed. On the 30th of July patient was walking about the ward.

There was some inversion of the left foot owing to the presence of the external malleolus, which made the outer side of the foot much firmer than the inner. This inversion was corrected by a suitably made boot with an inside metal rod fixed to the sole and fixed above to the leg by a leather collar. Had I to perform a similar operation I should remove the external malleolus, even if it was healthy, as by this means the symmetry of the foot would be preserved. I once before left it in excising the ankle joint for a badly set Pott's fracture, with good results. This case exemplifies well the advantage of conservative methods of treatment, the patient having now two fairly useful feet. The accompanying cuts show the present condition.